

REMARKS

New claims 31-32 have been added. Support for new claim 31 can be found in claim 21.

Support for new claim 32 can be found in claims 17 and 24.

Upon entry of the Amendment, claims 17-22 and 24-32 are pending in the application.

Claims 17-21 and 25-30 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Haruta et al. (“Haruta”) in view of Mochizuki et al. (“Mochizuki”).

Claims 22 and 24 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Haruta et al. in view of Mochizuki et al. as applied to claims 17-21 and 25-26 above, and further in view of JP ‘466 Konica Corp. (“Konica”).

The Examiner asserts that Haruta teaches an ink storing absorbent material for an ink jet made with a flexible polyurethane foam. The foam is the reaction product of a polyol, an isocyanate, a catalyst, and a blowing agent (see col. 1 lines 54-61). The Examiner states that Haruta teaches that additives, including surfactants, are employed in the ink compositions in amounts of 0.01-1% by weight. The Examiner also states that the ink compositions are impregnated into the foams in various amounts. The Examiner concludes it would have been *prima facie* obvious to include the ink containing the surfactant in any amount necessary to provide sufficient ink for printing purposes.

Applicants respectfully submit that the present invention is not anticipated by or obvious over the disclosures of Haruta in view of Mochizuki or over Haruta in view of Mochizuki and further in view of Konica and request that the Examiner reconsider and withdraw these rejections in view of the following remarks.

In an ink jet printer, there is an ink absorbent member in an ink-jet cartridge. Ink is exhausted from the cartridge and is printed through an ink permeation member and then the scattered ink (unnecessary ink) is absorbed into an ink waste absorber.

The present invention is directed to an ink supporter comprising an ink permeation member and an ink absorbing member. In view of the flow of ink as described above, it is necessary to keep ink pure in "an ink absorbent member/the ink permeation member" before printing, while it is not necessary to keep ink pure in a ink waste absorber after printing. That is, in order to keep ink pure in a cartridge (i.e. an ink absorbent member) and an ink permeation member, using surfactants is not desired for the materials of the members. On the other hand, any kinds of additives and compositions (such as surfactants) may be included in the ink after the use (printing).

In the present invention, the flexible polyurethane foam is impregnated with a surfactant to improve the flexible polyurethane foams ability of readily absorbing and supporting ink. On the other hand, Haruta discloses the amount of surfactant in the ink itself (as an ink waste absorber) and does not disclose the amount of surfactant is impregnated in the flexible polyurethane foam. Further, as acknowledged by the Examiner in the previous Action, Haruta teaches an ink permeable absorbing member, but Haruta does not teach the presence of a second contacting foam having a specific compression magnification (page 3 of the Non-final Office Action dated June 15, 2005).

Additionally, in general, ink includes surfactants such as diethylene glycol for stability of the ink and adjustment of viscosity. On the other hand, the surfactant in the present invention

(such denatured sodium succinate) is used to enhance the affinity to ink. Therefore, because of the difference of the affinity of the surfactant to ink, Haruta cannot have the same effects on the ability of absorbing and supporting ink as the present invention. In this respect Applicants direct the Examiner's attention to the Example in the specification. In spite of using the common pigment ink, the differences of "polyurethane foam structure" between the Example and Comparative Example brings about the differences in the results.

A general polyurethane foam does not have enough absorbent to absorb and adhere a surfactant of ink to bring about the inventive effects. It is very difficult for a surfactant included in ink to be absorbed within the flexible polyurethane foam because a surfactant is merely absorbed and not impregnated into the flexible polyurethane foam. That is, impregnation of the surfactant in a flexible polyurethane foam is different from absorbing ink within a flexible polyurethane foam because absorbing the surfactant within the flexible polyurethane does not include the steps involved in impregnating the surfactant in the flexible polyurethane foam such as squeezing water from the flexible polyurethane foam and then drying the flexible polyurethane foam to make the surfactant adhere on the surface of the polyurethane foam. Accordingly, Haruta does not have the structure in which a surfactant is adhered on the surface of the polyurethane foam, as in the present invention. Therefore, contrary to the Examiner's position, it would not have been obvious to include the ink containing the surfactant in any amount necessary to provide sufficient ink for printing purposes.

Additionally, Applicants refute the proposition that the absorptivity of ink is improved largely when the polyurethane foam is used (because of the act of a surfactant included in ink).

Appln. No.: 10/734,167
Amendment under 37 C.F.R. § 1.114(c)

Also, the ink cartridge itself is a wastage article and ink is consumed in the early term and then the cartridge itself is wasted.

In view of the foregoing, Haruta does not teach or suggest that the flexible polyurethane foam is impregnated with a surfactant to bring about the inventive effects in the ink supporter (not ink and/or not ink waste absorber). Mochizuki and Konica do not make up for the deficiencies of Haruta.

Further, new claim 32 is directed to the subject matter of claims 17 and 24. Claim 24 is not rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Haruta in view of Mochizuki. Accordingly, Applicants submit that new claim 32 is not obvious over Haruta in view of Mochizuki. Additionally, Applicants submit that claim 32 would not be obvious over Haruta in view of Mochizuki and further in view of Konica for the reasons discussed above.

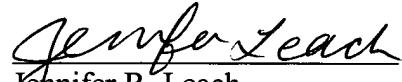
In view of the above, Applicants submit that the present invention would not be obvious over Haruta in view of Mochizuki or over Haruta in view of Mochizuki, further in view of Konica. Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Appln. No.: 10/734,167
Amendment under 37 C.F.R. § 1.114(c)

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


Jennifer R. Leach
Registration No. 54,257

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: April 28, 2006